

TECHNICAL GUIDE

MODELS: P*HM, P*DH, P*LB

**OIL-FIRED WARM AIR
UPFLOW / HORIZONTAL,
DOWNFLOW / HORIZONTAL AND
LOWBOY FURNACES**

80 AFUE

**NATURAL GAS
58 - 188 MBH OUTPUT**



DESCRIPTION

This is a high end product line for those in the dedicated oil business or HVAC contractor who demands the best in an oil furnace. These oil-fired furnaces are decorator-styled warm air heating units designed for installation in basements, closets, recreation rooms or garages. The complete line consists of three types of furnaces with 9 available models. Heating capacities range from 58 through 188 MBH bonnet output.

All models are designed to accommodate add-on air conditioning. The capacities, cfm's and performance are matched to meet year-round comfort requirements. After the installation of an oil-fired furnace, the air conditioner may be added at any time by adding a compact cooling coil to the furnace, and a small quiet condensing section outside the home.

WARRANTY

Lifetime limited warranty on heat exchangers to original owner

10-year limited warranty on heat exchanger when used on commercial applications

1-year limited warranty on all other parts

FEATURES

- Proven circular heat exchanger - 16 gauge all welded construction on P*HMX and P*LBX (except P4LBX20F19001)
- Hard cast ceramic combustion chamber for proper flame control and long reliability
- Industry standard Beckett "AF" series flame retention head burner
- Industry standard controls and components used throughout the furnace for easy service and parts availability
- All models are equipped with fan relay for easy add-on air conditioning (except P4LBX20F19001-heating only)
- All units are approved for multiple firing rates for easy application
- Heavy 20 gauge cabinet for strength and quiet operation
- Quiet four speed direct drive blower motors on most models



TABLE 1: PHYSICAL_ELECTRICAL

MODEL	HEATING MBH	OIL RATE GPH	AFUE %	CFM @ .5 IWG E.S.P.	UNIT AMPS	MAX. OVER-CURRENT PROTECT.	WIRE SIZE AWG	BLOWER		FILTERS QTY & SIZE	ADD-ON COOLING	
	OUTPUT							SIZE	HP		TONS	NOM. CFM
UPFLOW/HORIZONTAL												
P2HMX12F08001	79,000	0.70	80.5	1,144	12	15	14	GT10	1/2	(1) 16X25	1 1/2 - 3	1200
P3HMX14F10001	100,000	0.85	83.0	1,360	12	15	14	G10	1/2	(1) 16X25	2 - 3 1/2	1400
P3HMX20F12001	118,000	1.00	82.0	1,797	12	15	14	G12-10	3/4	(1) 16X25	3 - 5	2000
DOWNFLOW/HORIZONTAL												
P4DHX12F08001	75,000	0.65	82.4	1,213	12	15	14	GT10	1/2	(1) 20X20	1 1/2 - 3	1200
P4DHX16F12001	112,000	1.00	80.1	1,593	12	15	14	GT12	3/4	(1) 20X20	2 1/2 - 4	1600
LOWBOY												
P3LXB12F08001	80,000	0.70	81.5	1,117	12	15	14	GT10	1/2	(1) 20X20	1 1/2 - 3	1200
P3LXB14F12001	113,000	1.00	82.0	1,316	12	15	14	G10	1/2	(1) 20X25	2 - 3 1/2	1400
P2LXB16F14501	143,000	1.20	83.5	1,585	12	15	14	G10	1/2	(1) 20X25	2 1/2 - 4	1600
P4LXB20F19001	188,000	1.65	78.0	1,532	16	20	12	G12-10	3/4	(1) 20X25	N/A	N/A

TABLE 2: ALTERNATE FIRING RATES

BECKETT AF SERIES OIL BURNERS			BECKETT AF SERIES OIL BURNERS		
FURNACE MODEL	OUTPUT BTU/Hr.	NOZZLE (Delavan)	FURNACE MODEL	OUTPUT BTU/Hr.	NOZZLE (Delavan)
P4DHX12F08001	55,000 ¹	0.50 / 80°A	P2HMX12F08001	58,000 ¹	0.50 / 70°W
	75,000 ²	0.65 / 80°A		73,000 ¹	0.65 / 70°W
	85,600	0.75 / 80°A		79,000 ^{1,2}	0.70 / 70°W
P4DHX16F12001	85,200	0.75 / 80°A	P3HMX14F10001 P3HMX20F12001	87,000 ¹	0.75 / 70°W
	96,000	0.85 / 80°A		100,000	0.85 / 70°W
	112,000 ²	1.00 / 60°A		118,000	1.00 / 70°W
	123,000	1.10 / 70°A	P3LXB12F08001	57,000 ¹	0.50 / 70°W
P2LXB16F14501	130,000	1.10 / 70°A		75,000 ¹	0.65 / 70°W
	143,000 ²	1.20 / 60°A		80,000 ^{1,2}	0.70 / 70°W
P4LXB20F19001	168,000	1.50 / 70°B	P3LXB14F12001	85,000 ¹	0.75 / 70°W
	188,000 ²	1.65 / 70°B		96,000	0.85 / 70°W
				113,000 ²	1.00 / 70°W

1. Requires a low firing rate baffle.

2. Factory supplied nozzle.

TABLE 3: MINIMUM CLEARANCES TO COMBUSTIBLES

CLEARANCE FROM	UPFLOW / HORIZONTAL		DOWNFLOW / HORIZONTAL				LOWBOY ALL MODELS
	80 MBH	120 MBH	80 MBH		120 MBH		
			DOWNFLOW	HORIZONTAL	DOWNFLOW	HORIZONTAL	
TOP	1	1	0	6	0	3	3
FRONT	24	24	6***	24	16***	24	24
SIDES	1	1	1	1	1	1	Side 1 = 6 Side 2 = 18
REAR	1	1	1	1	1	1	24
BOTTOM	0	0	0****	1	0****	1	0**
S. A. PLENUM	1	1	1	1	1	3	1
FLUE PIPE	18*	18*	18*	18*	18*	18*	18*

NOTE: Adequate clearance should be provided over and above these clearances, as required for service access.

* May be 9 inches in Canada

** Elevated on 2-1/2 inch bricks

*** Front clearance required for servicing

**** With floor base accessor

DIMENSIONS

TABLE 4: P4DHX12F08001

MODELS	CABINET			PLENUM OPENINGS			FLUE	FILTER		SHIPPING WEIGHT
	Width	Depth	Height	Supply Air	Return Air		Dia.	Type	Size	
					Side	Bottom				
(A)	(B)	(C)	(D x E)	(K x L)	(F x G)	(H)				
P4DHX12F08001	22	22-1/8 ¹	55-1/4	19 x 19	14 x 22	18 x 18	5	Permanent	16 x 25 x 1	265 lb.

¹ Add 8-1/2 inches to allow for burner, (30-3/4 inches total).
 Add 8-3/4 inches to allow for add-on vestibule cabinet, (31 inches total). All dimensions in inches.

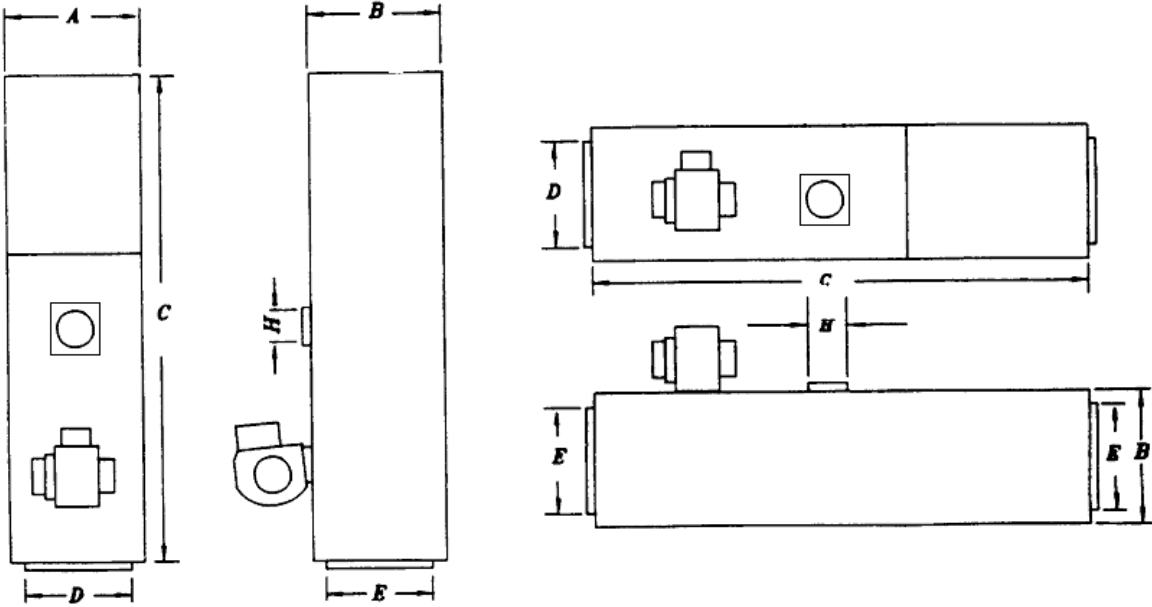


TABLE 5: P2LBX16F14501

CABINET			PLENUM OPENINGS			FLUE		FILTER	SHIPPING WEIGHT
Width	Depth	Height	Supply Air	Return Air	Gap	Dia.	Height		
(A)	(B)	(C)	(D x E)	(D x G)	(F)	(H)	(J)		
22	51-1/2	41	20-1/2 x 18-5/8	20-1/2 x 18-5/8	1-3/4	6	34-3/8	20 x 25 x 1	290 lb.

All dimensions in inches.

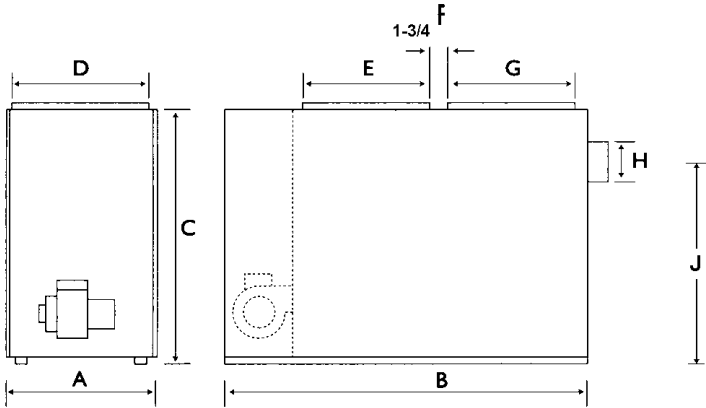


TABLE 6: P4LBX20F19001

CABINET			PLENUM OPENINGS			FLUE		FILTER (2)	SHIPPING WEIGHT
Width (A)	Depth (B)	Height (C)	Supply Air (D x E)	Return Air (D x G)	Gap	Dia. (H)	Height (J)		
26	46 ¹	56	24 x 22	24 x 22		2- 5/8	7	50-1/4	20 x 25 x 1

¹ Add 8-½ inches to allow for oil burner, (54-½ inches total). All dimensions in inches.

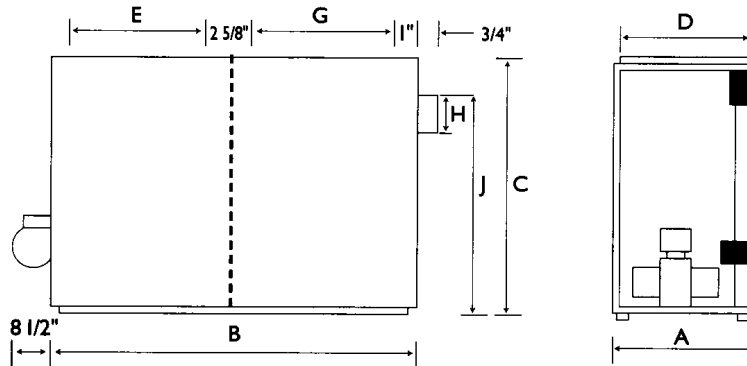


TABLE 7: P4DHX16F12001

MODELS	CABINET			PLENUM OPENINGS			FLUE	FILTER		SHIPPING WEIGHT
	Width (A)	Depth (B)	Height (C)	Supply Air (D x E)	Return Air		Dia. (H)	Type	Size	
					Side (K x L)	Bottom (F x G)				
P4DHX16F12001	22-1/4	22-1/4 ¹	62	20-1/2 x 20-1/2	18 x 18	18 x 18	6	Permanent	20 x 20 x 1	292 lb.

¹ Add 8-1/2 inches to allow for burner, (30-3/4 inches total).
 Add 8-3/4 inches to allow for add-on vestibule cabinet, (31 inches total). All dimensions in inches.

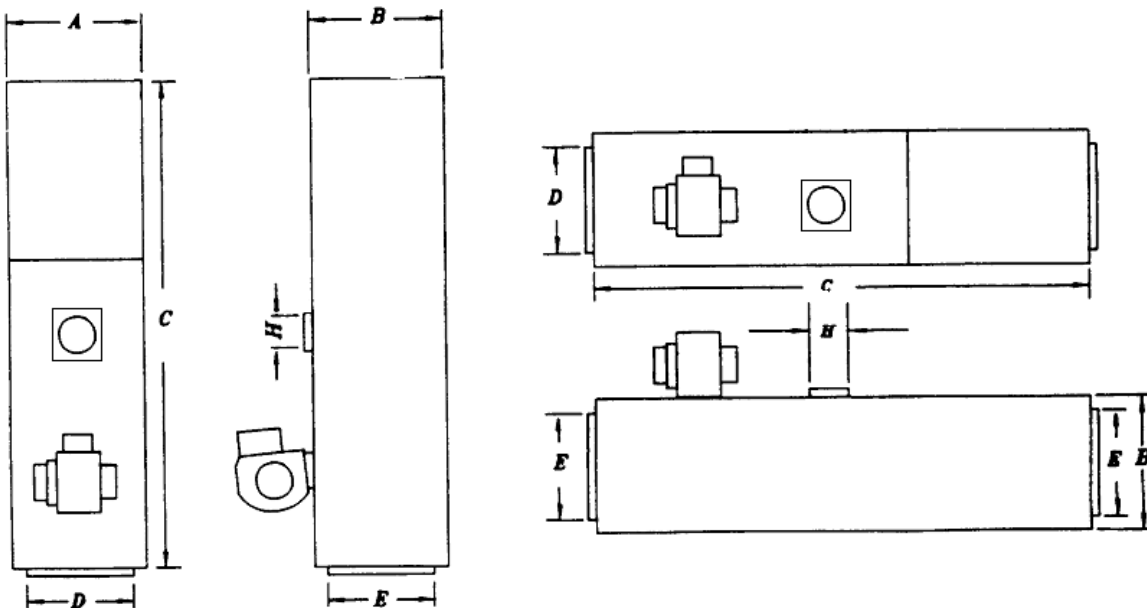


TABLE 8: P*HMX MODELS

CABINET			PLENUM OPENINGS			FLUE		FILTER (PERM.)	SHIP WEIGHT (LB.)
Width	Depth	Height	Supply Air	Return Air		Diameter	Height		
				Side	Bottom				
A	B	C	D x E	F x G			H		
P*HMX12F08001									
22	31	49-1/2	20-1/2 x 20	14 x 22	14 x 22	5	42	16 x 25 x 1	190
P*HMX14F10001 AND P*HMX20F12001									
22	31	58-1/8	20-1/2 x 20	14 x 22	14 x 22	6	46-1/2	16 x 25 x 1	270

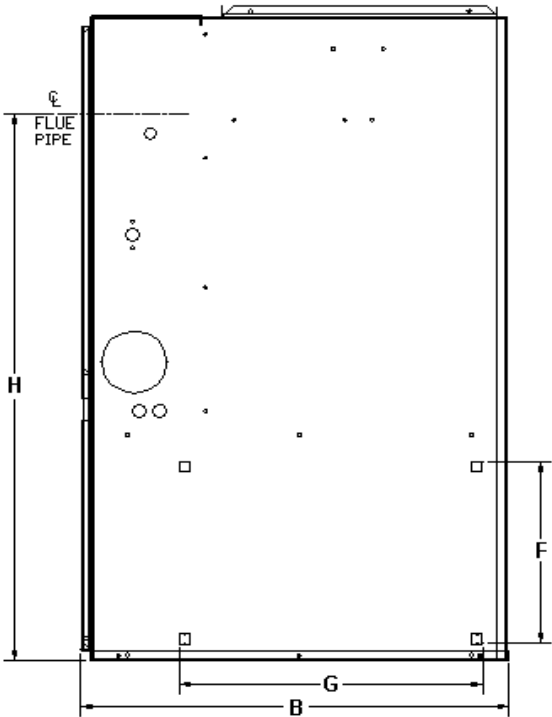
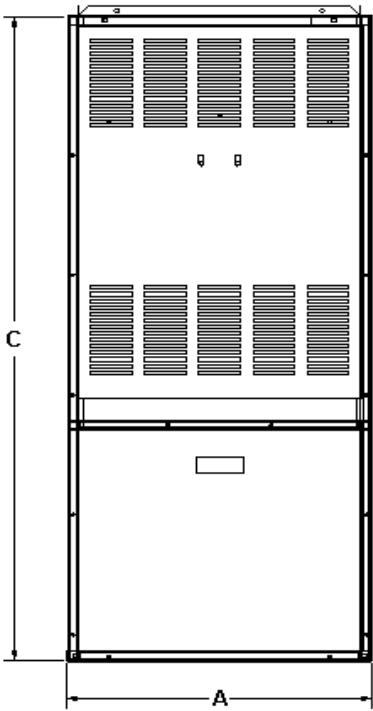
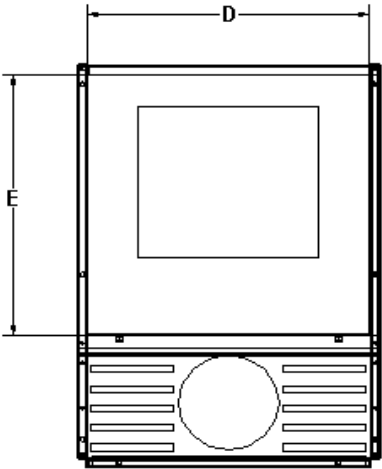


TABLE 9: P*LBX MODELS

CABINET			PLENUM OPENINGS		FLUE		FILTER (PERM.)	SHIP WEIGHT (LB.)
Width	Length	Height	Supply Air	Return Air	Diameter	Height		
A	B	C	D x E	F x G		H		
P*LBX12F08001								
22	51-1/2	32	20-1/2 x 18	20-1/2 x 18	5	26	20 x 20 x 1	240
P*LBX14F12001								
22	51-1/2	41	20-1/2 x 18-1/2	20-1/2 x 18-1/2	6	34½	20 x 25 x 1	267

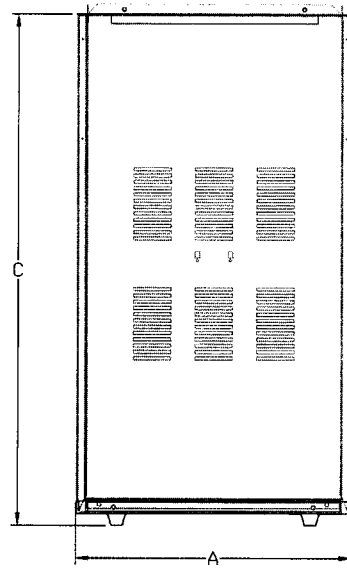
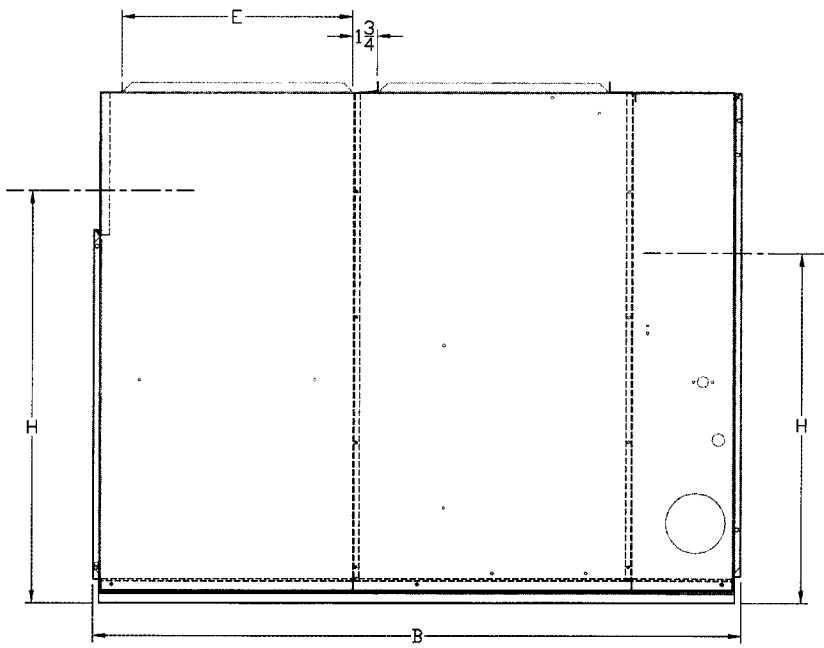
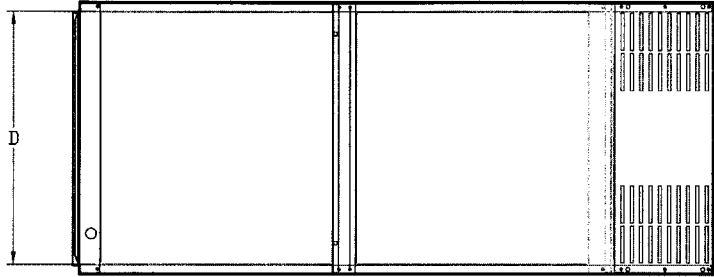


TABLE 10: BLOWER PERFORMANCE

MODEL	SPEED TAP	EXTERNAL STATIC PRESSURE, INCHES W.C.				
		0.20	0.30	0.40	0.50	0.60
P2HMX12F08001	High	1368	1298	1223	1144	1046
	Med-Hi	1318	1256	1178	1108	1007
	Med-Low	1173	1132	1071	993	909
	Low	856	833	791	748	692
P3HMX14F10001	High	1604	1527	1446	1360	1245
	Med-Hi	1507	1425	1338	1270	1171
	Med-Low	1172	1146	1119	1064	977
	Low	810	771	731	690	645
P3HMX20F12001	High	1957	1911	1846	1797	1729
	Med-Hi	1764	1730	1695	1640	1584
	Med-Low	1677	1658	1603	1565	1506
	Low	1446	1446	1446	1404	1315
P4DHX12F08001	High	1505	1444	1359	1291	1196
	Med-Hi	1423	1381	1291	1220	1144
	Med-Low	1170	1144	1118	1063	1005
	Low	813	813	797	763	690
P42DHX16F12001	High	1833	1786	1722	1656	1568
	Med-Hi	1747	1689	1630	1569	1495
	Med-Low	1648	1604	1542	1486	1438
	Low	1535	1494	1456	1406	1346
P3LBX12F08001	High	1444	1337	1220	1117	1020
	Med-Hi	1359	1268	1170	1090	975
	Med-Low	1063	1034	1005	944	844
	Low	730	689	688	644	596
P3LBX14F12001	High	1566	1487	1404	1316	1145
	Med-Hi	1487	1404	1339	1245	1036
	Med-Low	1222	1197	1174	1092	913
	Low	845	845	809	771	690
P2LBX16F14501	High	1810	1740	1675	1585	1510
	Med-Hi	1570	1540	1495	1445	1375
	Med-Low	1090	1080	1070	1065	1050
	Low	710	700	690	665	650

MODEL	MOTOR PULLEY TURNS OUT	EXTERNAL STATIC PRESSURE, INCHES W.C.				
		0.20	0.30	0.40	0.50	0.60
P4LBX20F19001	0	2274	2080	1847	1532	1099
	2	2107	1927	1712	1420	1019
	4	1939	1775	1576	1308	939
	6	1772	1622	1441	1196	859

ACCESSORIES**COMBUSTIBLE FLOOR BASE**

1CB1312 = For P3DHX12 model

1CB0416 = For P2DHX16 model

COMBUSTIBLE FLOOR BASE

1VP1280 VESTIBULE PANEL FOR P3DHX12F08001

